National Library Service for the Blind and Physically Handicapped

The Library of Congress

Approved by Director, NLS/BPH

Date 6/1/98

Specification: 804

Title: Collapsible Mailing Container for Braille books and magazines

Date: June 1998

Technical Certification

Engineering — Date: 2 June 98

Quality Assurance — Date: 5/29/98

Research and Development — Date: 5/29/98

Chief, MDD — Date: 6/2/98

BACKGROUND

The National Library Service for the Blind and Physically Handicapped (NLS) of the Library of Congress administers a free library service to eligible residents of the United States and citizens living abroad who cannot hold, handle, or read traditional print media because of visual or physical handicaps.

Using federal funds, NLS annually publishes approximately 2,000 books and 70 magazines on cassettes, on discs, and in braille. Titles are selected to appeal to a wide variety of interests, and copyright permission is obtained from authors and publishers. Books and magazines are narrated and duplicated at a high-quality professional standard. The quantity produced of any title is dependent on anticipated reader demand.

Playback machines and their accessories are designed to facilitate convenient use by handicapped people and to provide maximum reliability under environmental conditions that are sometimes harsh and handling that may be technically unsophisticated or inadvertently abusive. The equipment plays program materials at noncommercial speeds: 8-1/3 rpm for discs and 15/16 ips, 4-track for cassettes. All materials and equipment in the program can be sent to users and returned to libraries postage free.

A cooperating network of 56 regional libraries and more than 100 subregional libraries circulates recorded and braille books to some 700,000 adults and children out of a potential three million eligible population. Magazine subscriptions are provided on a direct-mail basis from the manufacturers. Users must generally deal with service centers in distant cities with communication by mail or phone and little or no personal contact. Everything comes and goes through a mail-order system. Fifty percent of the users are over sixty-four years old, and many depend on the NLS program for their major source of entertainment and connection with the world; 95 percent read recorded materials, 5 percent read braille.

Users are informed about new books, magazines, and services through bimonthly publications, annual catalogs, and subject bibliographies produced by NLS, and through various publications produced and circulated by the regional and subregional libraries.

USER MATERIALS

Contractors who consider submission of a bid to produce books, equipment, or other program products should be cognizant of the consumer-responsive nature of the program, and that the specifications for these products have been developed to meet the special reader needs in the program. Materials are produced with those reader needs foremost in mind, and improved through constant monitoring and consumer input. Contractors are expected to familiarize themselves with the equipment-handling practices of blind and physically handicapped clientele and ensure that the equipment they produce will stand up under this type of use. A high degree of quality workmanship and product reliability is mandated by the product specification.

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1. SCOPE

This specification covers the design and manufacture of a collapsible mailing container for braille books and magazines for the Library of Congress, National Library Service for the Blind and Physically Handicapped (NLS).

2. APPLICABLE DOCUMENTS

The editions of the following documents in effect on the date of invitation for bids form a part of this specification. In the event of conflict between the documents referenced herein and the content of this specification, the content of this specification shall be considered a superseding requirement.

Standard:

MIL-STD 105 Sampling Procedures and Tables for Inspection by Attributes
FED-STD 751 Stitches, seams, and stitchings

3. REQUIREMENTS

Production Control Samples

After contract award, two samples are to be produced from production tooling. The samples, accompanied by complete test data verifying their compliance with this specification and NLS drawing #LC642, and a certificate of product compliance with sections 3.5 and 3.9 are to be sent to NLS. Approval of the samples by NLS establishes them as Production Control Samples for all subsequent production. One sample will be retained by NLS and the other will be returned to the contractor. All changes during production will require prior NLS approval of two new Production Control Samples incorporating the changes.

First Production Lot

After receiving written approval of the Production Control Samples, the contractor is authorized to produce 200 containers to be shipped to NLS for inspection. Further production or shipment of containers will not be permitted until these containers are approved. Production (not just shipment) is to be stopped between the production of the first 200 containers and receipt of approval in writing to continue production.

3.1 Drawing

Container shall be manufactured in accordance with NLS drawing #LC642.

3.2 External dimensions

External dimensions of container shall not exceed 4-3/8" x 12-1/4" x 14" (111mm x 311mm x 356mm)

3.3 Internal dimensions

The container openings shall be sized so as to allow a rigid object 3-3/4" high x 11-1/2" wide x 13" long (95mm x 292mm x 330mm) to be inserted with minimal difficulty.

3.4 Stitching

Stitching shall conform to type 301 of FED-STD 751, using 6 to 8 stitches per inch.

3.5 Flammability

Materials which ignite from a match flame, and when so ignited continue to burn in a still carbon dioxide atmosphere, shall not be used. Certificate of compliance shall accompany production control samples.

3.6 Tolerance of temperature extremes

Materials shall not deteriorate or show evidence of decrease in strength or functionality when exposed to temperature extremes (-50 degrees F, ± 10 degrees F (-45.5 degrees C ± 5.5 degrees C), for 24 hours; 140 degrees F, ± 10 degrees F (60 degrees C, ± 5.5 degrees C), for 24 hours at 20% relative humidity.

3.7 Tolerance of high temperature and humidity

Materials shall not deteriorate or show evidence of decrease in strength and functionality when exposed to conditions of high temperature and humidity (115 degrees F, ± 10 degrees F (46.1 degrees C ± 5.5 degrees C)), 90% relative humidity, for 24 hours.

3.8 Dyed materials

In dyed materials, all dyes must remain fast after exposure to the temperature and humidity extremes described in section 3.7, or after exposure to water.

3.9 Toxicity

Materials which may cause bodily harm by contact, inhalation, or ingestion shall not be used. Certificate of compliance shall accompany production control samples.

3.10 Substitutions

Any substitute item or material designated by the contractor as equivalent to materials specified in NLS drawing #LC642 must be approved by the NLS contracting officer. This shall be done by submitting detailed specification data and manufacturer’s descriptive material, dimensions and tolerances, performance ratings and service life ratings (as applicable), with a request for substitution. Manufacturer’s certification of compliance with section 3.5 and 3.9 shall also be submitted with all substitute materials requests.

3.11 Workmanship

Workmanship shall be in accordance with the best commercial practice for this type of product. Each unit shall be free of defects that might hinder automated mail handling equipment.

4. QUALITY ASSURANCE PROVISIONS

4.1 Contractor responsibility

The contractor is responsible for inspection and test of all units furnished as specified herein. All units must meet all requirements of this specification. The contractor is responsible for all tests associated with in-process manufacturing, inspection, quality control, including those tests required for stock items procured and installed as complete components. Except as otherwise specified in a contract or purchase order, the contractor may utilize his own or any other inspection facilities and services acceptable to the Library of Congress. Inspection records of examinations and tests shall be kept complete and available to NLS as specified in the contract. The Library of Congress reserves the right to perform any of the inspections set forth in this specification where such inspections are deemed necessary to ensure that supplies and services conform to the prescribed requirements.

4.2 Lot inspection

The contractor shall inspect each unit of the initial production lot of 200 for adherence to this specification and shall test each unit against the tests listed in section 4.8. For all subsequent lots, the contractor is required to use a lot inspection sampling plan according to MIL-STD 105. The Acceptable Quality Level (AQL) shall be 0.65%, level II inspection.

4.3 Inspection system

The contractor shall maintain an inspection system, including appropriate inspection forms and reports, that must be approved by NLS. If a significant fault is found in the production units which can be traced to a lack of adequate production control or inspection, the necessary control or inspection shall be instituted without additional charge. The contractor shall retain all inspection reports for a period of eighteen months following shipment of the final production lot.

4.4 Recall

It shall be the prerogative of the contracting officer to initiate a recall at his discretion.

4.5 Lot samples

For each lot subsequent to the initial production lot, the contractor shall send randomly-selected samples to NLS for inspection. The quantity of samples required will be dependent upon lot size and will be specified by NLS at time of contract award. The contractor’s inspection reports shall accompany the samples. NLS reserves the right to perform on-site inspections at any time of any process or test being performed during the manufacturing of the product described herein. The NLS representative shall have the authority to select, at random and at any time, samples for testing to the specified requirements. NLS reserves the right to reject any production lot which fails to meet the 0.65%, level II AQL. No lots shall be shipped until after receipt of written approval from NLS.

4.6 Conformance to specification

The contractor is responsible for ensuring that components, parts and materials conform to the requirements and references in applicable documents, drawings and specifications.

4.7 Warranty

The contractor shall agree to unconditionally warrant each container produced for a period of one year from the date of manufacture stamped on the container. Containers that are found to be not in conformance with this specification will be returned to the contractor. The defective container shall be replaced and returned within ten (10) working days. In the case of dispute, the decision of the contracting officer (or designee) shall prevail.

4.8 Methods of inspection

The mailing container must meet or exceed the following performance test requirements, which shall be performed in the order in which they are listed:

4.8.1 Internal dimension test

With one end of the container fully closed, fully insert a rigid object with dimensions 3-3/4" x 11-1/2" x 13" (95mm x 292mm x 330mm) into the container through the opposite end and close the flaps. Ensure that the object can be inserted into the container with minimal difficulty and that both ends of the container can be fully closed with the object inside. Both openings shall be tested.

4.8.2 External dimension test

A fully closed container shall pass through a rigid opening measuring 4-3/8" high x 12-1/4" wide x 4" deep (111mm high x 311mm wide x 102mm deep) with minimal force.

4.8.3 Address card holder velcro tab location test

Fully inserting a 3" x 5" (76mm x 127mm) card in address card holder, the upper edge of the card shall overlap the lower edge of the velcro loop tab sewn to the face of the container.

4.8.4 Address card insertion test

When fully inserted, a 3" x 5" (76mm x 127mm) card shall have 1/4"(6mm) +1/8"(3mm) - 1/16" (1.6mm) movement side to side.

4.8.5 Closure flap test

Ensure that the closure flap to be tested is fully closed and that the full surface areas of the velcro hook and loop faces are in contact. Apply firm pressure along the full length of the velcro strips to ensure that they are fully mated. Attach a 9 pound (4.08 kg) weight to the center of the flap. Holding the container so that the front face is at a 45 degree angle to the horizontal,

with the flap being tested lowermost, raise the container until the weight is lifted off the ground. The flap shall not open fully.

4.8.6 Handle Clearance Test

Suspend the container by a hook at the center of its handle. Measure the distance between the handle and the face of the container at the widest point, compressing the exterior fabric of the container so that it is just in contact with the HDPE insert beneath it. The distance shall be 2" (51mm) +1/4" (6mm) - 1/4" (6mm).

4.8.7 Durability of handle fastening stitching

Using a four 4 pound (1.81 kg) object of dimensions approximating a braille book inserted in the container, suspend the container by a chain fastened to the center of its handle. Raise the test unit 12" (305mm) and drop it, allowing the chain to arrest its movement. Repeat test for a total of two drops. No tears or separation of the handle from the test unit shall be allowed.

4.8.8 Seam Burst Test

Placing a container fully configured for mailing, but empty, face down on the floor, drop another container holding a 4 pound (1.81 kg) weight onto the first from a height of 36" (914mm) (measured from floor to lowest point of dropped container). The second container shall be dropped so as to strike the center of the rear face of the test unit with one of its short 4-3/8"(111mm) edges. Repeat for a total of three (3) drops. No separation of seams on the test unit shall be allowed.

5. Preparation for delivery

5.1 Packing

Containers shall be collapsed before packing.

5.2 Packaging

Containers shall be packaged for shipment in cartons sized to weigh no more than 40 pounds (18.1 kg) when full. Cartons shall be of suitable strength to hold such a weight and acceptable for safe transit through freight shipping systems.